

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Claims 1-16 are pending in this application.

The outstanding Official Action includes a rejection of Claims 1, 2, 4-6, 8-10, 12-14, and 16 under 35 U.S.C. § 103(a) as being unpatentable over JP 07-161072, a rejection of Claims 5-6, 8, 13, 14, and 16 under 35 U.S.C. § 103(a) as being unpatentable over Nakanishi et al. (U.S. Patent No. 5,124,232, Nakanishi), and a rejection of Claims 1-16 under 35 U.S.C. § 103(a) as being unpatentable over Nonaka et al. (U.S. Patent No. 6,352,753, Nonaka) in view of Ohbayashi et al. (U.S. Patent No. 6,300,039, Ohbayashi).

Initially, it is noted that the Information Disclosure Statement (IDS) filed December 6, 2002, included copies of three (3) cited references and a Form PTO 1449 that listed these references. However, the outstanding Action makes no mention of this IDS and does not include a copy of the Form PTO 1449 with the Examiner's initials next to the references that have been considered. Accordingly, the PTO is respectfully requested to correct this oversight.

Before considering the outstanding prior art rejections applied to Claims 1-16, it is believed that a brief summary of the invention would be helpful. In this regard, the present invention is directed to a phase-change optical recording medium including a substrate having a multilayered film formed thereon. This multilayered film includes a protective layer and a recording layer that provides for information recording/erasing based on a reversible phase change provided by the recording layer between a crystalline phase and an amorphous phase. The protective layer is a film made of an oxide of tantalum or aluminum that has at least one carbide included therewith. The content of the at least one included carbide in the protective layer is from 1 to 40 mol %. This phase-change optical recording medium has high erasability in overwriting at a high linear velocity and has high recording sensitivity,

excellent OW cycling characteristics, and excellent weatherability, all as disclosed at page 3, lines 1-24, of the specification, for example.

Turning to the outstanding rejection of Claims 1, 2, 4-6, 8-10, 12-14, and 16 under 35 U.S.C. § 103(a) as being unpatentable over JP 07-161072, it is clear that the rejection makes improper assumptions not taught by JP 07-161072.

In this respect, the reasonable suggestion of paragraphs 0005 and 0016 of JP 07-161072 appears to be that protective layers can be formed of unspecified amounts of AlN, BN, SiC, and C along with unspecified amounts of SiO₂, Al₂O₃, and Ta₂O₅ with absolutely no hint that suitable amounts of a preferred embodiment of AlN-SiO₂ have any bearing on the amounts of other protective layer combinations that could be formed. In this regard, the PTO reviewing court recently reminded the PTO that it was not proper to assume teachings of equivalence into reference statements that included no express statements as to such equivalence. See *In re Kotzab*, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) as follows:

But the Board's decision, adopting the Examiner's premise, lacks the necessary substantial evidence to support a rejection of Kotzab's claims. Specifically, there is not substantial evidence to show that "one system" is the same thing as "one sensor."

Just as no substantial evidence could be found in the reference in *Kotzab* to support the PTO position that the terms "one system" could be read as being the same thing as "one sensor," none is present in JP 07-161072 suggesting that the actually disclosed preferred AlN-SiO₂ protective layer of paragraph 0018 of JP 07-161072 that is taught to have a range of "90:10-10:90," is a range teaching that is the same for all possible combinations of AlN, BN, SiC, and C with Al₂O₃, and Ta₂O₅.

Moreover, even if it could be presumed that the broad range of anywhere between 10% and 90% taught as to the preferred embodiment AlN-SiO₂ content also applied to a possible carbide content in a possible protective layer also having an oxide of tantalum or aluminum along with the carbide, as all of the independent base claims (1, 5, 9, and 13)

rejected here require, where is the required teaching that the claimed carbide content from 1 to 40 mol% is to be used?

In this last regard, the comparative examples described at pages 15-22 of the specification relative and FIGS. 5 and 6 and tables 1-10 on pages 23-25 of the specification present clear evidence of the unexpected results of a higher degree of erasure and improved recording sensitivity (Pth), benefits arising from the use of the claimed critical carbide content along with the claimed oxide of tantalum or aluminum in the claimed protective layer forming part of the claimed phase-change optical recording medium presented by the independent base claims (1, 5, 9, and 13) rejected here. See In re Margolis, 228 USPQ 940, 942 (Fed. Cir. 1986) requiring that the PTO must consider comparative data disclosed in the Application specification as evidence in reaching any conclusion regarding obviousness. Also note In re Soni, 34 USPQ 2d 1684, 1687 (Fed. Cir. 1995) requiring the PTO to provide a persuasive basis to question such comparative data and assertion that the results demonstrated thereby were unexpected.

Accordingly, it is believed to be clear that the independent base claims (1, 5, 9, and 13) patentably define over JP 07-161072 and withdrawal of the rejection of these base independent claims over JP 07-16102 is believed to be in order.

The rejection of Claims 4, 8, 12, and 16 over JP 07-16102 is traversed because Claim 4 depends on Claim 3, Claim 8 depends on Claim 7, Claim 12 depends on Claim 11, and Claim 16 depends on Claim 15 and because Claims 3, 7, 11, and 15 have not been rejected as being unpatentable over JP 07-161072. Accordingly, these claims respectively dependent on Claims 3, 7, 11, and 15 cannot be rejected without the like rejection being applied to these parent claims.

In addition, it is noted that Claim 2 depends on base independent Claim 1, Claim 6 depends on base independent Claim 5, Claim 10 depends on base independent Claim 9, and

Claim 14 depends on base independent Claim 13 such that these dependent claims patenably distinguish over JP 07-161072 for the reasons noted above as to these base independent claims.

Dependent Claims 2, 6, 10, and 14 should also be considered to patentably define over JP 07-161072 because they further add features not taught or suggested by JP 07-161072 and patentably define there over for this reason as well.

With respect to the rejection of Claims 5-6, 8, 13, 14, and 16 under 35 U.S.C. § 103(a) as being unpatentable over Nakanishi, the outstanding Action incorrectly assumes that the inorganic thin film teaching of col. 7 lines 29-34 and the clearly alternative (“or”) teachings of “oxides, carbides, and nitrides of metals such as Si, Al, Ti, Zr, Te, Ge, etc.” of col. 7, lines 34-36 are somehow suggested for use together. Not only does the use of the alternative “or” in line 34 demonstrate this interpretation to be unreasonable, the separate discussion of the “compound film” at lines 37-45 contradict that there is any suggestion of including a compound film including an oxide of aluminum and a carbide as the protective layer as base independent Claims 5 and 13 require.

Moreover, even if it could be said that there was a suggestion to use a compound film including an oxide of aluminum and a carbide as the protective layer as base independent Claims 5 and 13 require, there is no suggestion that any of the ratios 3:7 for ZrC-SiO₂, 4:6 for TiC-SiO₂, 8:2 for ZnS-SiO₂, or 85:15 for ZnS-MgF₂ should be used for other compound films having an aluminum oxide component. It is believed that a reasonable reference suggestion requires far more than the guessing game the outstanding Action appears to suggest.

In this regard, even if it could be presumed that one of the ranges designed for other materials would be used, where is the teaching as to which one of them should be selected (30:70, 4:60, 80:20, or 85:15)? In accordance with the above-noted Kotzab decision, where

does Nakanishi teach or suggest that the preferred silicon dioxide (SiO_2) can be replaced by an aluminum oxide in the ZrC-SiO_2 embodiment or the TiC-SiO_2 embodiment, much less where does Nakanishi teach or suggest that the preferred embodiment ratios would not be effected by such a change in the oxide part of the compound film from the preferred silicon dioxide to aluminum oxide?

Accordingly, it is believed to be clear that independent base Claims 5 and 13 patently define over Nakanishi and withdrawal of this rejection of base independent Claims 5 and 13 over Nakanishi is believed to be in order.

The rejection of Claims 8 and 16 over Nakanishi is traversed because Claim 4 depends on Claim 3 and Claim 16 depends on Claim 15 and because parent Claims 3 and 15 have not been rejected as being unpatentable over Nakanishi. Accordingly, Claims 8 and 16 that are respectively dependent on Claims 3 and 15 cannot be rejected without a like rejection being applied to parent Claims 3 and 15.

In addition, it is noted that Claim 6 depends on base independent Claim 5 and Claim 14 depends on base independent Claim 13 such that these dependent claims patently distinguish over Nakanishi for the reasons noted above as to these base independent claims.

Dependent Claims 6 and 14 should also be considered to patently define over Nakanishi because they further add features not taught or suggested by Nakanishi and patently define there over for this reason as well.

The rejection of Claims 1-16 under 35 U.S.C. § 103(a) as being unpatentable over Nonaka in view of Ohbayashi is also traversed as neither Nonaka nor Ohbayashi teach or suggest any reason to provide the carbide content of from 1 to 40 mol% in a protective layer also having an oxide of tantalum or aluminum along with the carbide, as all of the independent base Claims 1, 5, 9, and 13 that have been rejected on this ground require.

Moreover, the outstanding Action does little more than suggest that the phase-change optical recording medium including a substrate having a multilayered film formed thereon that includes a protective layer formed as a film made of an oxide of tantalum or aluminum having a carbide included therewith is a prior art structure because isolated disclosures suggesting parts of the overall combination can be found in Nonaka and Ohbayashi.

However, and as noted in Kotzab at USPQ2d 1316:

Most if not all inventions arise from a combination of old elements. See *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998). Thus, every element of a claimed invention may often be found in the prior art. See *id.* However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. See *id.* Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant. See *In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

Moreover, even if it could be presumed that there was some teaching or suggestion that could actually be found in Nonaka and/or Ohbayashi that would have suggested the phase-change optical recording medium including a substrate having a multilayered film formed thereon that includes a protective layer formed as a film made of an oxide of tantalum or aluminum that has at least one carbide included therewith as all of the independent base Claims 1, 5, 9, and 13 require, the outstanding Action fails to point to a reference teaching or suggestion that would have led the artisan to further include the carbide content from 1 to 40 mol% as these independent base claims all require. See *In re Rijckaert*, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (“When the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference.”).

Accordingly, it is believed to be clear that independent base Claims 1, 5, 9, and 13 patently define over Nonaka in view of Ohbayashi and withdrawal of this rejection of these base independent claims over these references is also believed to be in order.

In addition, it is noted that Claims 2-4 all ultimately depend on base independent Claim 1, Claims 6-8 all ultimately depend on base independent Claim 5, Claims 10-12 all ultimately depend on base independent Claim 9, and Claims 14-16 all ultimately depend on base independent Claim 13 such that these dependent claims patenably distinguish over Nonaka in view of Ohbayashi for the reasons noted above as to these base independent claims.

Dependent Claims 2-4, 6-8, 10-12, and 14-16 should also be considered to patentably define over Nonaka in view of Ohbayashi because they further add features not taught or suggested by these references taken alone or together in any proper combination and patentably define there over for this reason as well.

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As it is believed that no other issues remain outstanding in this application, it is believed that this application is in condition for formal allowance and an early and favorable action to that effect is, therefore, respectfully requested.

Respectfully submitted,

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